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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,742	09/29/2000	Takashi Saito	001215	2058

23850 7590 03/12/2003

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EXAMINER

ZIMMERMAN, GLENN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,742

Applicant(s)

SAITO ET AL.

Examiner

Glenn Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 is/are pending in the application.
- 4a) Of the above claim(s) 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on September 29, 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on December 27, 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

Amendment, filed on December 27, 2002, has been entered and acknowledged by the examiner.

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on December 27, 2002 have been approved.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 30. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application.

The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Konishi et al. U.S. Patent 5,957,743.

Regarding claim 2, Seats et al. teach a plasma display device **(title)** comprising a display module **(Fig. 1 and 2)**, the display module having electronics **(drive unit ref. 30)** mounted to the back surface thereof and utilizing the front surface thereof as a display surface, the display module further comprising:

a back surface glass plate **(lower glass plate ref. 11)** having discharge electrodes **(molybdenum lower electrodes ref. 21)**;

a front surface glass plate **(upper glass plate ref. 10)** that is mounted on and opposing to the back surface glass plate via separation walls **(parallel walls ref. 13)** and having discharge electrodes **(upper electrodes ref. 20)**; and

luminescent pixels **(cells Fig. 1 ref. 2)** defined by the back surface glass plate, the separation walls and the front surface glass plate; , but fail to teach wherein the luminescent pixels are formed so that at least the surface of the back surface glass plate opposite and facing the display surface is a reflection surface. Konishi et al. in the analogous art teach wherein the luminescent pixels are formed so that at least the surface of the back surface glass plate opposite and facing the display surface is a reflection surface **(titanium oxide layer Fig. 3B ref. 10)**. Additionally, Konishi et al. teaches incorporation of such a reflection surface to improve reflection and enhance brightness **(col. 5 lines 15-21)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the reflection surface in the plasma display panel of Seats et al. since such a modification would improve reflection and enhance brightness as taught by Konishi et al.

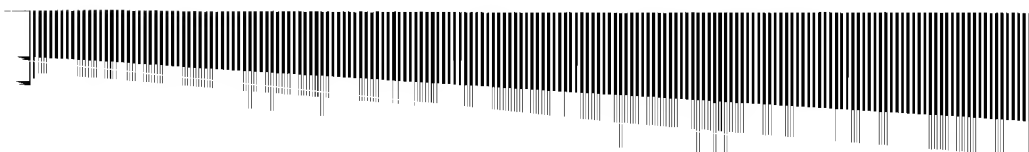
Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Konishi et al. U.S. Patent 5,957,743 and the Applicant's Admitted Prior Art.

Regarding claim 3 Seats et al. and Sano teach all the limitations of claim 3, but fail to teach the surface of the front surface glass plate is not a reflection surface. The applicant's admitted prior art teaches that the surface of the front surface glass plate is not a reflection surface (**dielectric layer Fig. 6 ref. 19**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the front surface not be a reflection surface in the plasma display device of Seats et al., since such a modification would be conventional.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Konishi et al. U.S. Patent 5,957,743 and Choi et al. U.S. Patent 6,051,928.

Regarding claim 3 Seats et al. and Sano teach all the limitations of claim 3, but fail to teach other than the surface of the front surface glass plate are reflection surfaces. Choi et al. in the analogous art teach that the surface of the front surface glass plate is not a reflection surface (**front glass substrate and a plurality of anodes Fig. 4 refs. 31 and 32 respectively**).



Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the front surface not be a reflection surface in the plasma display device of Seats et al., since such a modification would be conventional.

Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Sano U.S. Patent 5,182,489.

Regarding claim 2, Seats et al. teach a plasma display device (**title**) comprising a display module (**Fig. 1 and 2**), the display module having electronics (**drive unit ref. 30**) mounted to the back surface thereof and utilizing the front surface thereof as a display surface, the display module further comprising:

- a back surface glass plate (**lower glass plate ref. 11**) having discharge electrodes (**molybdenum lower electrodes ref. 21**);

- a front surface glass plate (**upper glass plate ref. 10**) that is mounted on and opposing to the back surface glass plate via separation walls (**parallel walls ref. 13**) and having discharge electrodes (**upper electrodes ref. 20**); and

- luminescent pixels (**cells Fig. 1 ref. 2**) defined by the back surface glass plate, the separation walls and the front surface glass plate,, but fail to teach wherein the luminescent pixels are formed so that at least the surface of the back surface glass plate opposite and facing the display surface is a reflection surface. Sano in the analogous art teaches wherein the luminescent pixels are formed so that at least the surface of the back surface glass plate opposite and facing the

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display surface is a reflection surface (**Fig. 5 ref. 30; col. 6 lines 62-64; col. 7 lines 1-3**). Additionally, Sano teaches incorporation of such a reflection surface to improve reflecting of phosphor emitted light toward the first insulating substrate which is the display direction (**Fig. 5; col. 7 lines 11-13**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the reflection surface in the plasma display panel of Seats et al. since such a modification would improve reflecting of light emitted by the phosphors toward the first insulating substrate which is the display direction as taught by Sano.

Claim 4 is a product-by-process claim and the particular process "formed by metal plating" has not been given patentable weight.

Claim 5 is a product-by-process claim and the particular process "formed by adhering metal leafs" has not been given patentable weight.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Sano U.S. Patent 5,182,489 and the Applicant's Admitted Prior Art.

Regarding claim 3 Seats et al. and Sano teach all the limitations of claim 3, but fail to teach the surface of the front surface glass plate is not a reflection surface. The applicant's admitted prior art teaches that the surface of the front surface glass plate is not a reflection surface (**dielectric layer Fig. 6 ref. 19**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the front surface not be a

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reflection surface in the plasma display device of Seats et al., since such a modification would be conventional.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seats et al. U.S. Patent 5,663,611 in view of Sano U.S. Patent 5,182,489 and Choi et al. U.S. Patent 6,051,928.

Regarding claim 3 Seats et al. and Sano teach all the limitations of claim 3, but fail to teach other than the surface of the front surface glass plate are reflection surfaces. Choi et al. in the analogous art teach that the surface of the front surface glass plate is not a reflection surface **(front glass substrate and a plurality of anodes Fig. 4 refs. 31 and 32 respectively)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the front surface not be a reflection surface in the plasma display device of Seats et al., since such a modification would be conventional.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano U.S. Patent 5,182,489 in view of Ookura Japanese Patent Publication 10-293541.

Regarding claim 2, Sano teaches a plasma display device **(title)** comprising a display module **(Fig. 5)**, and utilizing the front surface thereof as a display surface, the display module further comprising:

A back surface glass plate **(soda glass second insulating substrate ref. 12)** having discharge electrodes **(column electrode ref. 16)**;

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A front surface glass plate (**soda glass first insulating substrate ref. 10**) that is mounted on and opposing to the back surface glass plate via separation walls (**partition wall ref. 22**) and having discharge electrodes (**row electrode ref. 14**); and

Luminescent pixels (**ref. 24**) defined by the back surface glass plate, the separation walls and the front surface glass plate;

Wherein the luminescent pixels are formed so that at least the surface of the back surface glass plate opposite the display surface is a reflection surface (**reflector ref. 30**), but fail to teach the display module having electronics mounted to the back surface thereof. Ookura in the analogous art teach the display module having electronics mounted to the back surface thereof (**PDP unit and control circuit substrate ref. 3 and 5**). Additionally, Ookura teaches incorporation of such a display module having electronics mounted to the back surface thereof to improve the shortness of the plasma display panel (**detailed description paragraph 2**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have the electronics mounted to the back surface of the display module in the plasma display of Sano since such a modification would improve shortness of the plasma display as taught by Ookura.

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Allowabl Subject Matter

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 6, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a plasma device including the combination of all the limitations as set forth in claim 6, and specifically wherein the reflection surface opposite the display surface has a concave surface, and the light reflected from the reflection surface is condensed at the display surface could not be found elsewhere in prior art.

Response to Arguments

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory

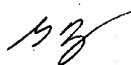
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action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (703) 308-8991. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is n/a.


Glenn Zimmerman
February 28, 2003


ASHOK PATEL
PRIMARY EXAMINER